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1. A method of stimulating kidney tubule formation in a post-natal mammal, comprising administering to said mammal a substantially pure Wnt polypeptide or a Wnt agonist, wherein said Wnt polypeptide is not Wnt-11.
2. The method of claim 1, wherein said mammal is characterized as suffering from a kidney disorder.
3. The method of claim 1, wherein said mammal is an adult mammal.
4. The method of claim 2, wherein said disorder is chronic renal failure.
5. The method of claim 2, wherein said disorder is renal cell carcinoma.
5. The method of claim 2, wherein said disorder is polycystic kidney disease.
6. The method of claim 2, wherein said disorder is chronic obstructive uropathy.
7. The method of claim 2, wherein said disorder is virus-induced nephropathy.
8. The method of claim 7, wherein said virus is HIV-1.
9. The method of claim 1, wherein said Wnt polypeptide is a Wnt-1 class polypeptide.

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10. The method of claim 1, wherein said Wnt polypeptide is selected from the group consisting of Wnt-3a, Wnt-4, Wnt-7a, and Wnt-7b.

11. The method of claim 1, wherein said Wnt
5 polypeptide is Wnt-4.

12. The method of claim 1, wherein said Wnt agonist is HLDAT86.

13. The method of claim 1, further comprising administering a sulfated glycosaminoglycan.

10 14. The method of claim 1, wherein said Wnt polypeptide or Wnt agonist is administered locally to a renal tissue.

15 15. The method of claim 14, wherein said Wnt polypeptide or Wnt agonist administered by retrograde perfusion of said renal tissue.

16. The method of claim 1, wherein said Wnt polypeptide or Wnt agonist is administered ex vivo to an explanted renal tissue.

17. The method of claim 1, wherein said Wnt
20 agonist is a peptide mimetic.

18. The method of claim 1, wherein said Wnt polypeptide has an amino acid sequence at least 85% identical to SEQ ID NO:1, 2, 3, 4, or 5, and wherein said Wnt polypeptide induces tubulogenesis.

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19. A method of stimulating kidney tubule formation in a post-natal mammal, comprising administering to said mammal a substantially pure nucleic acid encoding a Wnt polypeptide or a Wnt agonist.

- 5 20. An *ex vivo* mammalian kidney comprising an substantially pure exogenous Wnt polypeptide.